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THE OCCUPATIONS OF HIGH-SCHOOL GRADUATES AND NON-GRADUATES¹

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High-school graduates make their life-careers in occupations that are among the more intellectual and more refined. Any observing high-school principal or teacher knows that his pupils very rarely become farm laborers, factory hands, cabmen, domestic servants, or salesgirls. Just how they are distributed, however, is not known for the country at large or for even any large geographical unit or large city.

Investigations have been made by Shallies (1913), Mitchell (1914), Counts (1915), Inglis (1915), Koons (1917), and in connection with the Elyria Survey (1918) with the following results.

Shallies reports that of 734 students graduating from seventy-five high schools in New York state in June, 1908, 33.6 per cent went to college, 16.6 per cent to normal school, 5.4 per cent to professional school; 16.0 per cent were engaged in teaching, 11.7 per cent in business, 8.5 per cent in trade; 5.6 per cent were at home, and 2.6 per cent were unknown as to their careers.

The letter of inquiry which secured these facts was sent in March, 1911, to the principals of certain high schools, one or more of whose graduates in 1908 had graduated from a normal school in 1910. This procedure served to select high-school graduates who went on into normal schools in excess of their representation in the state in general. How many of the principals who were asked to report the facts did so is not stated. Probably not all reported, and those who did probably represented schools somewhat above the average in the dignity of their graduates' careers.

¹ The investigation reported in this article was aided by a grant from the Commonwealth Fund.

Mitchell reports the distribution of 845¹ graduates from forty-eight high schools in Iowa in 1908 as follows:

	Percentage
Agriculture.....	5.8
Professions.....	4.5
Business.....	3.8
Commercial employees.....	16.1
Teaching.....	30.0
Studying in liberal arts colleges.....	16.7
Girls married.....	17.0
Musicians.....	3.2
At home.....	3.0

Counts, studying the immediate futures of 20,389 graduates in 1913 from high schools in the North Central Association, reports the following distribution:

	Percentage
College.....	26.9
Commercial school.....	3.7
Trades.....	3.4
Farming.....	2.9
Normal school.....	7.3
Business.....	10.1
At home.....	15.1
Other occupations.....	14.3
Professions*.....	3.3
Domestic economy and agriculture.....	2.4
Teaching.....	4.3
Unknown.....	6.3

* This presumably means, at least to some extent, students in professional schools.

The primary data used by Counts were voluntary returns sent in by the principals of 1,000 high schools during the first half of the school year 1913-14. They were asked to report the number of the boys and girls in the previous year's graduating class belonging in each of the following groups: college, commercial school, trades, farming, normal school, business, at home, other occupations, medicine, dentistry, engineering, pharmacy, law, domestic economy, agriculture, and unknown. This request is somewhat ambiguous, and, oddly enough, omits teaching, the one occupation most widely undertaken by high-school girls in the year follow-

¹ The numbers for the groups specified total 841, and this total has been used in computing the percentages.

ing graduation. Counts interprets medicine, dentistry, etc., as professions, but they may oftener mean students preparing for these professions.

Ingليس computes, from the data of the United States Bureau of Education for 1912, that the central tendency by states is for a trifle over one-half of the high-school graduates to continue in colleges, normal schools, or other institutions of higher education.

Koons studied the graduates of a single high school (Murphysboro, Illinois) which was established in 1901. Up to January, 1916, there were 269 graduates, 117 boys and 152 girls. The occupations of these are reported by Koons as shown in the following table. For comparison similar facts are given for 117 boys and 152 girls selected at random from those who left school before graduation. The entries are expressed in percentages.

	GRADUATES		NON-GRADUATES	
	Boys	Girls	Boys	Girls
Agriculture.....	3.4	0.0	9.4	0.0
Business.....	23.0	15.1	23.1	7.2
Industries.....	14.5	0.0	26.5	5.3
Housewives.....	0.0	46.7	0.0	46.1
Teaching.....	6.9	21.0	0.9	3.3
Professions.....	12.0	0.0	1.7	0.0
Students.....	23.1	2.6	0.9	1.3
Miscellaneous.....	7.7	2.0	12.0	4.6
At home.....	0.0	9.2	0.0	14.5
No occupation.....	2.6	0.0	2.6	0.0
Occupation not known...	3.4	2.0	21.4	13.2
Deceased.....	3.4	1.3	1.7	4.0

The Elyria Survey, reporting on 51 boys and 97 girls graduating in 1915 and 1916, finds that the percentage distribution on the basis of occupation within a year or two after graduation is as follows:

	Boys	Girls
Engaged in further study.....	35.3	34.0
Teaching.....	0.0	22.7
Trade (all in banks).....	7.8	0.0
Manufacturing and mechanical industries....	37.3	2.1
Milliner.....	0.0	2.1
Clerical occupations.....	11.8	18.6
Married.....	0.0	5.2
At home.....	2.0	13.5
Miscellaneous.....	5.9	2.1

In the spring of 1917 forty-six boys who entered the Elyria High School in the fall of 1913 but had left school were distributed as follows:

	Percentage
Agriculture	10.9
Trade	26.1
Industry	39.1
Transportation	10.9
Bell boy	2.2
Unknown	8.7
Loafing	2.2

Thirty girls of the same group who had left school were distributed as follows:

	Percentage
Industry	10.0
Telephone operator	26.6
Clerical work	30.0
Nurse	3.3
At home	20.0
Married	6.7
Unknown	3.3

These studies are valuable in helping to define our knowledge of the sort of life-work in which high-school students will engage, but they are limited in two important ways. They do not keep track of the individuals long enough for us to establish their eventual status; and the classifications employed (agriculture, business, industries) are too general. Agriculture may mean that a person operates a farm worth \$50,000 and employs ten men or that he is a farm laborer; business may mean an errand boy or a bank president.

An attempt has been made to overcome these limitations by searching for representative high schools which have published or unpublished lists of their alumni for many years back and which report occupations in detail. Information from the following institutions seemed especially suited to our purpose: The Ottawa Township High School, Ottawa, Illinois; data for the classes from 1878 to 1914. The Labette County High School, Altamont, Kansas; data for the classes from 1896 to 1915. The Atchison County High School, Effingham, Kansas; data for the classes from

1892 to 1916. The Pontiac Township High School, Pontiac, Illinois; data for the classes from 1895 to 1916. The Gouverneur Schools, Gouverneur, New York; data for the classes from 1888 to 1915. The Auburn Academic High School, Auburn, New York; data for the classes from 1868 to 1906.

We have collated the facts for graduates from 1892 to 1901 (1895 to 1901 for Pontiac and 1896 to 1901 for Labette County) and also for graduates from 1902 to 1911 (1902 to 1906 for Auburn). The former group represents graduates most of whom had more than ten years after graduation in which to establish themselves in life and deserves special attention.

The occupations mentioned are given in full, partly because these details give a concrete sense of the work of high-school graduates and partly to permit the reader to classify them as he wishes. They are also classified into groups. The detailed lists presented in Tables I and II show that the high-school graduates of 1892 to 1901 engaged in the main in the top quarter of the country's work as rated on the basis of desirability and importance. In Table I the ninety-nine cases labeled "business" are all from two schools, Ottawa and Auburn; and the more detailed records of the other four schools show that only a very small percentage of these ninety-nine are engaged as porters, drivers, and the like. Even if we regard the "unknowns" as much inferior to the "knowns," and estimate the number of "farmers" who are really farm laborers very generously, we have out of 466 males, only 41 who may be doing work below the level of a stenographer, salesman, or electrician (3 in Army and Navy, 6 in the factory group, 9 out of 33 farmers, 1 lumberman, 2 out of 7 in the manufacturing group, 8 out of 99 in business, and 12 out of 24 unknowns).

Let the reader arrange the occupations of the 1892 to 1901 male graduates along a scale of seven units in which one represents an unskilled day laborer; four, a blacksmith, carpenter, mason, or plumber; seven, a doctor, lawyer, engineer, or operator of an industrial or commercial plant with an income of \$3,500 or more. Two and three represent equal steps between one and four. Five and six represent equal steps between four and seven. Distribute the "farmers," "unknowns," and other doubtful cases as

seems just. It will probably be found that more than one-half of the male high-school graduates will be placed in the two highest compartments, and more than four-fifths of them in the three

TABLE I*

PERCENTAGE DISTRIBUTION, ON BASIS OF OCCUPATION, OF MALE GRADUATES FROM SIX HIGH SCHOOLS

	1892- 1901	1902- 1911
Artist, 1, 0; architecture, 2, 1; cartoonist, 1, 0; chorister, 0, 1; music, 1, 2; music teacher, 0, 1; stage, 1, 0.....	1.3	0.8
Accountant, 1, 1; auditor, 2, 0; banking, 14, 2; bank cashier, 3, 4; bank solicitor, 1, 0; city treasurer, 1, 0; post-office inspector, 1, 0; postmaster, 2, 2; registrar, 2, 0; county treasurer, 0, 1.....	5.8	1.5
Army, 1, 0; Navy, 2, 1.....	0.6	0.2
Advertising agent, 0, 1; business, 99, 131; book business, 2, 0; business manager, 0, 1; druggist, 4, 3; hardware, 0, 3; insurance, 0, 1; jeweler, 0, 1; lumber dealer, 1, 0; music dealer, 1, 0; manager of coal office, 0, 2; manager of grocery depot, 2, 2; manager farmer's elevator, 0, 1; manager of show, 0, 1; real estate, 6, 4; merchant, 4, 7; salesman, 6, 4; shoe dealer, 0, 1; shoe salesman, 0, 1; traveling, 1, 0	27.0	24.7
Clergyman, 11, 3; dentistry, 6, 2; editor, 5, 0; education, 18, 4; entomology, 0, 1; journalism, 5, 3; law, 57, 14; medicine, 19, 5; missionary, 1, 0; pastor, 1, 0; pathology, 1, 0; principal of school, 0, 1; physical director, 0, 1; physician, 17, 5; professor, 1, 1; student, 1, 105; superintendent of schools, 2, 2; teaching, 7, 37; Y.M.C.A., 3, 1.....	33.3	27.9
Chemistry, 2, 5; civil engineer, 7, 7; engineering, 14, 9; electrical engineer, 1, 1; mechanical engineer, 1, 1; mining engineer, 0, 3; architectural engineer, 0, 1.....	5.4	4.1
Draughting, 2, 2; electricity, 2, 9; forestry service, 0, 1; inspector (meat and dairy), 2, 0; machinist, 2, 2; painter, 0, 1; pharmacy, 2, 5; plumbing, 1, 1; photography, 3, 0; telegraphy, 1, 0; surveyor, 0, 1.....	3.2	3.3
Bookkeeping, 7, 9; billing clerk, 0, 1; cashier, 1, 2; clerking, 11, 20; drug clerk, 0, 1; government clerk, 0, 1; groceryman, 0, 1; mail clerk, 3, 8; postal service, 1, 0; Santa Fe office, 0, 1; stenographer, 1, 14; secretary, 1, 0; railroad employee, 4, 1.....	6.2	8.9
Factory, 1, 1; chauffeur, 0, 1; deliverer, 0, 1; mail carrier, 1, 3; mechanic, 4, 1; work in lumberyard, 0, 1; working for coal company, 0, 1.....	1.3	1.4
Farming, 33, 77.....	7.1	11.6
Lumberman, 1, 3.....	0.2	0.5
Manufacturing, 7, 2.....	1.5	0.3
Agricultural agent, 4, 2; internal revenue officer, 1, 0; osteopath, 1, 0; tailor, 1, 0; United States mail, 2, 4; undertaker, 0, 1; veterinary, 0, 1.....	1.9	1.2
At home, 0, 3.....	0.0	0.5
Not stated, 23, 83; unknown, 1, 6.....	5.1	13.4

* The wording of the original is followed in the list of occupations. The numbers after each occupation are the actual occurrences, the first being for the decade 1892 to 1901, the second for the decade 1902 to 1911. The totals are: 1892 to 1901, 466; 1902 to 1911, 664. The numbers in the columns at the right are percentages of the total. Thus, of the graduates from 1892 to 1901, 1.3 per cent are artists, architects, etc.; 5.8 per cent are accountants, auditors, etc.

highest. The occupations of the women may be similarly distributed by using a scale in which one represents an unskilled laborer, a dish washer or factory hand of low grade; four, a clerk or typist; seven, a teacher in high school or an operator of a store or shop with an income of \$2,000 or more. This procedure will probably result in placing nearly three-fifths of the unmarried women

TABLE II*

PERCENTAGE DISTRIBUTION, ON BASIS OF OCCUPATION, OF FEMALE GRADUATES FROM SIX HIGH SCHOOLS

	ALL WOMEN		UNMARRIED WOMEN	
	1892-1901	1902-1911	1892-1901	1902-1911
Artist, 0, 2; music, 7, 10; musician, 1, 0; music teacher, 6, 4; stage, 1, 0; supervisor of music, 1, 0.....	1.9	1.5	3.8	2.5
Business, 80, 63; abstract office, 1, 0; music dealer, 1, 0; deputy register of deeds, 0, 1; superintendent, 0, 1.....	9.5	6.2	19.4	10.3
Bookkeeper, 13, 16; clerk, 13, 15; office work, 0, 1; private secretary, 2, 1; postal clerk, 0, 2; saleslady, 1, 2; secretary, 0, 1; stenography, 24, 37; assistant postmistress, 1, 0.....	6.3	7.1	12.8	11.9
Chautauqua system, 0, 1; education, 107, 22; librarian, 5, 5; married teacher, 3, 4; student, 3, 70; settlement work, 0, 1; teaching, 44, 204.....	18.9	29.3	38.4	48.7
Nursing, 6, 12; married nurse, 1, 0; osteopathy, 1, 0; pharmacy, 1, 0.....	1.0	1.1	2.1	1.9
Dressmaking, 2, 1; millinery, 1, 1.....	0.3	0.2	0.7	0.3
Domestic, 0, 1; housekeeping, 2, 0.....	0.2	0.1	0.5	0.2
Machine operator, 1, 0.....	0.1	0.0	0.2	0.0
Married, 437, 417.....	50.9	39.8
At home, 36, 94; in Japan, 1, 0; unemployed, 34, 18..	8.3	10.7	16.8	17.7
Not stated, 18, 34; unknown, 4, 7.....	2.6	3.9	5.2	6.5

* The numbers after each occupation are the actual occurrences when all women are included, the first being for the decade 1892 to 1901, the second for the decade 1902 to 1911. The totals are: all women, 1892 to 1901, 859; 1902 to 1911, 1,048; unmarried women, 1892 to 1901, 421; 1902 to 1911, 631.

graduates in the two highest compartments and nearly nine-tenths of them in the three highest.

High-school graduates (male) have over ten times their quota in the professions. According to the census of 1900, in the general male population twenty-five to thirty-four years of age there were just about as many draymen, hackmen, and teamsters as there were in the four professions plus journalism and dentistry; but

among the high-school graduates there were possibly one-sixtieth as many. Among women in general of the ages twenty-five to thirty-four, dressmakers and milliners outnumber teachers considerably, but among the high-school graduates teachers are about fifty times as numerous as milliners and dressmakers together.

TABLE III*

PERCENTAGE DISTRIBUTION, ON BASIS OF OCCUPATION, OF GRADUATES AND NON-GRADUATES OF THE NORTHEAST HIGH SCHOOL, PHILADELPHIA, 1893-1911

	Graduates	Non-Graduates
Actors, 0.0, 0.2; artists and designers, 3.2, 0.7; engravers, 0.2, 0.4; musicians, 0.3, 0.4	3.7	1.7
Accountants, 0.6, 0.4; bankers and stockbrokers, 1.1, 0.5; builders, 0.9, 0.4; contractors, 0.8, 0.2	3.4	1.5
Architects and architectural draughtsmen	3.2	.9
Advertising solicitors and writers, 0.5, 0.7; commercial travelers, etc., 3.0, 7.3; insurance agents, etc., 1.4, 1.1	4.9	9.1
Brewers, 0.3, 0.2; druggists, 0.6, 0.9; manufacturers, 2.7, 2.0; merchants, 1.7, 2.4	5.3	5.5
Bookkeepers, 2.7, 2.0; clerks, etc., 5.3, 8.2; private secretaries, 0.3, 0.5; stenographers, 0.8, 0.0	9.1	10.7
Chemists, 1.7, 0.4; engineers, 8.8, 2.4	10.5	2.8
Clergymen, 0.4, 0.2; dentists, 1.1, 0.4; journalists, 1.5, 0.4; physicians and surgeons, 2.7, 0.9; teachers, 2.4, 0.4; consuls and lawyers, 2.3, 0.7	10.4	3.0
Draughtsmen, 8.6, 3.5; decorators, 0.8, 0.4; electricians, 5.3, 0.2; instrument makers, 0.8, 0.0; jewelers, 0.1, 0.2; machinists and pattern makers, 1.5, 0.9; photographers, 0.6, 0.0; surveyors, rodmen, and transitmen, 2.1, 0.7	19.8	5.9
Osteopaths, 0.0, 0.4; veterinary surgeons, 0.1, 0.4	0.1	0.8
Plumbers, 0.4, 0.7; printers, 0.5, 0.9; tailors, 0.1, 0.0	1.0	1.6
Students	15.7	1.5
Supervisors, 0.4, 0.0; superintendents, foremen, and managers, 1.9, 5.1	2.3	5.1
Other occupations and not reported	10.6	50.4

* The first number after each occupation is the percentage of living graduates; the second, the percentage of living non-graduates.

The life-careers of non-graduates cannot be pictured with surety. We have been unable to find records save those quoted from Koons and the Elyria Survey and those given in Table III comparing graduates and non-graduates of the Northeast High School of Philadelphia, a school of rather special nature and history. The one fact which is certain is that the non-graduate takes, in respect to occupation, a position intermediate between the graduate and the person who has not attended high school.

From both the details and the grouped results shown in Table III¹ it is obvious that, with any reasonable distribution of the "unknowns," the non-graduates will be relatively less frequent than the graduates in the more dignified and important occupations and more frequent in those less dignified and important. This is shown also by the data quoted from Koons and the Elyria Survey.

We have shown elsewhere² that from 1890 to 1918 the percentage of children reaching a given age who go to high school has trebled and that the percentage of children reaching a given age who graduate from high school has increased even more. It seems unlikely that the enviable status shown for graduates in 1892 to 1901 in respect to occupations can be fully maintained now and in the future. To maintain it would require that the favored occupations be practically closed to all but high-school graduates. This may perhaps be taking place. The supply of high-school graduates is increasing so fast that any profession or reputable semiprofession may demand such. Even if it is not fully maintained—indeed, even if there is a considerable movement downward—the high-school graduates will still have a notably high occupational status; the correlation between amount of education and dignity of occupation will still be close.

¹ These facts are compiled from the *Catalog of the Northeast High School*, Philadelphia, 1912-13, and the *Handbook of the Alumni Association of the Northeast Manual Training High School*, Philadelphia, 1913.

² E. L. Thorndike, "Changes in the Quality of the Pupils Entering High School," *School Review*, XXX (May, 1922), 355-59.